



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,758	11/15/2001	Luc Dartois	Q67075	7485
7590 02/23/2005				
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC Suite 800 2100 Pennsylvania Avenue, N.W. Washington, DC 20037-3213			EXAMINER WARE, CICELY Q	
			ART UNIT 2634	PAPER NUMBER
DATE MAILED: 02/23/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,758

Applicant(s) ☒

DARTOIS, LUC

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 11 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because:
 - a.) In Fig. 1, examiner suggests applicant label elements as referenced in specifications.

It is office policy to request from applicants that submitted figures contain both text and numerical labels to allow individuals viewing each figure to be able to determine the designation of each element in the figure without having to go into the specifications.

2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3.

Specification

4. The disclosure is objected to because of the following informalities:
 - a. Pg. 5, lines 4-5, examiner suggests applicant re-write these lines for clarification purposes.

Appropriate correction is required.

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 4 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hellberg (US Patent 6,324,559).

(1) With regard to claim 1, Hellberg discloses A method of optimizing the performance of a mobile radio system transmitter using processing operations including discrete Fourier transform (DFT) computation, filtering in the frequency domain, inverse discrete Fourier transform (IDFT) computation, overlapping of processed sample blocks, and oversampling, wherein, for a given input sampling frequency, a given order of magnitude of the output sampling frequency, and a given order of magnitude of the required frequency resolution, the length LDFT of the DFT and the length LIDFT of the IDFT are chosen in such a manner as to enable the finest possible choice of the percentage overlap and/or the oversampling factor (abstract, col. 2, lines 66-67, col. 3, lines 1-13, 51-67, col. 5, lines 28-38, 44-51).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Hellberg further discloses wherein, if the ratio LIDFT/LDFT is not an integer, the denominator of the fraction LIDFT/LDFT when simplified is chosen to be as small as possible, to

provide the finest possible choice of the length L of the blocks of samples with no overlap at the input of the DFT and therefore the finest possible choice of the percentage overlap (col. 8, lines 55-62, col. 12, lines 31-38).

(3) With regard to claim 4, claim 4 inherits all the limitations of claim 1. Hellberg further discloses wherein, if the ratio LDFT/LIDFT is an integer, the lengths LDFT and LIDFT are chosen in such a manner as to provide the finest possible choice of the oversampling factor or the output sampling frequency (col. 5, lines 44-51, col. 7, lines 19-26).

(4) With regard to claim 11, claim 11 inherits all the limitations of claim 1. Hellberg further discloses in (Fig. 1) a mobile radio system transmitter including means for implementing a method (col. 1, lines 12-15, col. 7, lines 50-51).

Allowable Subject Matter

5. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of optimizing the performance of a mobile radio system transmitter. Prior art references show similar methods but fail to teach: **“the input sampling frequency being equal to 3.84 MHz, the required value of the output sampling frequency being close to 80 MHz, and the required value of the frequency resolution being close to 80 kHz, LDFT is chosen to be equal to 48 and LIDFT is chosen to be equal to 1024”**, as in

claim 3; **“the input sampling frequency being equal to 3.84 MHz, the required value of the output sampling frequency being close to 80 MHz, and the required value of the frequency resolution being close to 80 kHz, LDFT is chosen to be equal to 45 and LIDFT is chosen to be equal to 1260”**, as in claim 5.

6. Claims 6-10 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of optimizing the performance of a mobile radio system transmitter. Prior art references show similar methods but fail to teach: **“wherein, before effecting said DFT computation, a frequency shift DF is applied in the time domain equal to the algebraic difference between the required central frequency of the corresponding filtered signal and the closest frequency sample coming from said DFT computation”**, as in claim 6; **“wherein, before effecting said DFT computation, to compensate phase jumps between samples at the output of the DFT, a complex multiplication is effected of the input samples by a complex of unit modulus and opposite phase to the phase jump to be compensated”**, as in claim 7; **“wherein the phase jump to be compensated being periodic and predictable by the function $L/LDFT$, said complex is expressed in the form: $decp = \exp(2*j*\pi*numc/LDFT*L*(NUMT-1))$, where: NUMT is the relative chronological number of the slices or blocks of L samples, and numc is the IDFT channel number corresponding to the central frequency of the carrier concerned or to the ratio F_c/F_s modulo LIDFT (F_c is the required carrier frequency)”**, as in claim 8; **“wherein the LDFT samples of said blocks are rotated in such manner**

that the LDFT-L zeros are placed as close as possible to the center of the blocks and the L signal samples are placed on either side of the LDFT-L zeros”, as in claim 9; “wherein said blocks are rotated in such a manner that the LDFT-L zeros are placed as close as possible to the center of the blocks, to within one sample if L is odd”, as in claim 10.

Conclusion

8. The prior art made record of and not relied upon is considered pertinent of applicant's disclosure:

a. Leyonhjelm et al. US Patent 6,266,687 discloses flexibility enhancement to the modified fast convolution algorithm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

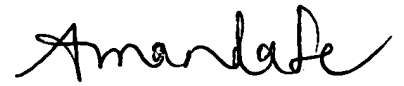
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Art Unit: 2634

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
February 15, 2005

A handwritten signature in black ink, appearing to read "Amanda T. Le". The signature is fluid and cursive, with a large initial "A" and a long, sweeping underline.

AMANDA T. LE
PRIMARY EXAMINER